

The **American Fertilizer**



98

JANUARY 16 and 30, 1943

No. 2 and 3

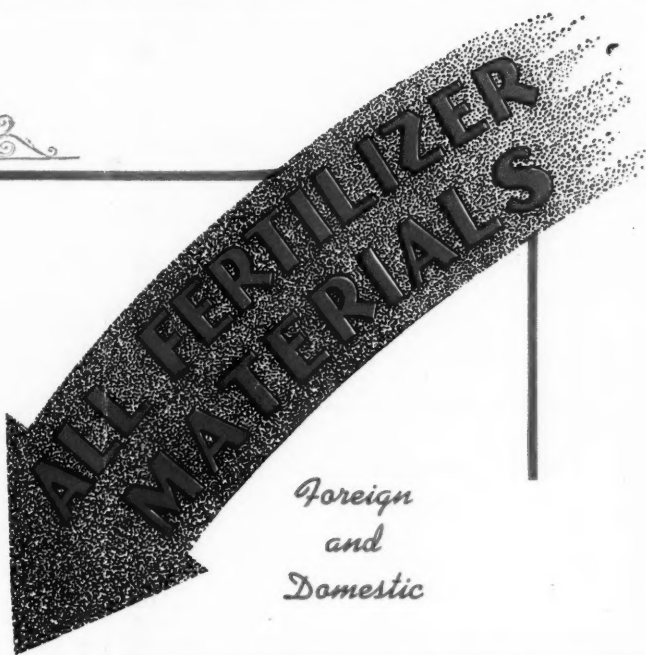


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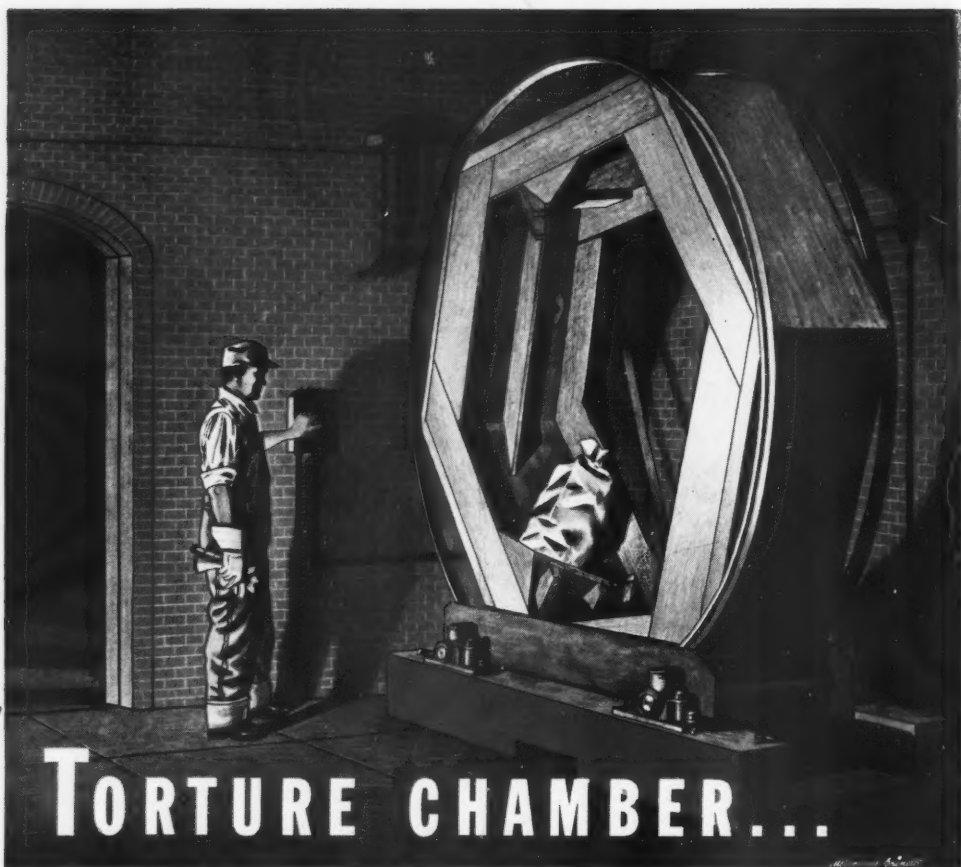
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See page 25

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

...THE...

AMERICAN FERTILIZER

"That man is a benefactor to his race who makes two blades of grass to grow where but one grew before."

Vol. 98

JANUARY 16 and 30, 1943

Nos. 2 and 3

The Equitable Distribution of Fertilizer in View of the Nitrogen Shortage

By WILLIAM H. MARTIN*

AGRICULTURE did a fine job in 1942. Our production was nearly 12 per cent greater than in 1941 and 40 per cent higher than in 1918. Even with this tremendous increase we already have threatened shortages of some commodities. Meat is being rationed; this despite the fact that we produced 23 billion pounds in 1942. The reason for the rationing of meat is not difficult to explain when it is realized how much consumption has increased among our civilian population, how much our armed forces consume, and particularly the demands of the lend-lease program taking a billion pounds in the past eighteen months.

The farm machinery situation is giving concern to many growers, and transportation is another problem. In most areas, however, the labor situation is the cause of greatest concern. At the present time, there is every reason to believe that labor will be the real bottleneck in meeting our crop production goals in 1943. It is already reported that in some areas many farms are listed for sale, largely resulting from the fact that the operators are concerned over the possibility of not finding sufficient help to harvest their crops.

In addition to these difficulties in the way of producing maximum crops, there are a number of scarce materials including insecticides, fungicides, and fertilizers. Fortunately, the situation as regards supplies of fertilizer is not too black. Present indications are that we will have sufficient potash and phosphorus to supply all of our needs. The nitrogen sup-

ply is not critically short, although it is true that we do not have quite enough to furnish maximum quantities likely to be desired by every grower. It was an appreciation of this fact that compelled the Government agencies, concerned with this problem, to formulate a plan which would insure the equitable distribution of available supplies.

These efforts have had the wholehearted cooperation of the fertilizer industry. It has been a real pleasure to me to meet with the various representatives of your industry. Naturally it has been impossible to grant every request, but I found that the men representing the fertilizer industry had a real appreciation of the problem and were willing to adjust their thinking to meet the situation.

While the scheme for the distribution of fertilizer has been rather definitely established, we must all realize that many things can happen to upset our well-laid plans. In time of war, it is difficult to develop plans which are likely to stand without change for any length of time. For example, the U. S. Department of Agriculture has not yet announced the production goals for 1943 and probably will not do so until next month. When these goals have been agreed upon, it is entirely possible that we shall need to adjust our plans concerning the use of fertilizer for 1943. It is conceivable, for example, that we may be asked to withhold chemical nitrogen on vegetables not considered to be necessary for the war effort. It is entirely possible, also, that some areas will be encouraged to produce more of certain vegetables in order to eliminate wasteful cross-hauls. Again, some crops may be designated as more im-

*Dean and Director, New Jersey College of Agriculture and Experiment Station, and Consultant on Fertilizers and Insecticides, Agricultural Chemicals Unit, War Production Board.

portant than others to the war effort, and adjustments may have to be made in order that these get more rather than less nitrogen. The fertilizer industry must be prepared for changes of this kind and must be ready to adjust its program accordingly.

In any discussion of the equitable distribution of fertilizer in view of the nitrogen shortage, mention must be made of ways and means of using present supplies more efficiently.

We must place more stress on the use of lime. Adequate information is available to demonstrate that considerably less nitrogen could be used without yield reduction, provided that an adequate amount of lime is used. In New Jersey, for example, on several vegetables, we have accumulated ample evidence to show that 1,000 pounds of a 4-10-5, or similar analysis, will give as large yields as 1,500 pounds, provided the soil is adequately limed and the fertilizer properly applied. This probably would not be true for an indefinite number of years, but there is no question but that it would follow for several years.

We must give more attention to leguminous cover crops. More of our unprofitable land should be removed from production and planted to a sod or green manures. For too long we have been careless in the handling of manures so that much of their value has been lost through exposure to leaching, etc.

Better Application Methods

There is still room for improvement in the method of applying fertilizer. Considerable work has been done in various States on this problem in recent years and it is questionable if the methods of application which have been proved to be most satisfactory are employed as generally as they should be. In New Jersey, we long ago found that the application of fertilizer on potatoes, two inches to the side and on a slightly lower plane than the seed piece, gave results far superior to the method formerly employed. The use of starter solutions for vegetables needs to be further investigated and used more extensively in those sections where their value has been demonstrated. It is likewise true that the use of fertilizer in water needs more thorough investigation. Workers in several States have demonstrated that this method will result in maximum yield returns despite the fact that smaller amounts of plant food are applied than is the case where the fertilizer was applied in the usual form.

Likewise, we must give more attention to

erosion control in order to preserve the fertility of our soils. Some results of investigations conducted in New Jersey in cooperation with the Soil Conservation Service are of extreme interest in this connection. These studies, conducted on a typical vegetable soil not only demonstrated the fact that soil and water losses were greatly reduced by the use of manure and cover crops but showed also that large amounts of plant nutrients were carried away in the eroded material.

All of us concerned with agriculture must give more thought to these measures for conserving our available supplies of fertilizers. We must learn to do more with less—particularly when in so many cases we can produce as satisfactory crops with the smaller amount.

Fertilizer Distribution

Obviously, our chief concern today is the consideration of ways and means of accomplishing an equitable distribution of available supplies of inorganic nitrogen. You will recall that a series of conferences was held in different areas—similar to the one held in Atlanta last July. Following these conferences, the War Production Board and the U. S. Department of Agriculture studied the recommendations made by the agronomists, representatives of industry and others interested in the use of fertilizer on our farms. All of this resulted in Order M-231 issued by the War Production Board in early September. As you know, this order restricted the use of inorganic nitrogen. None was to be used this fall on grains to be harvested for grain; none was to be used on lawns, golf courses, or non-commercial plantings of trees, shrubs or flowers. It has been estimated that this will result in a saving of approximately 20,000 tons of nitrogen.

You will recall also that in Order M-231 there was listed the approved grades for the different States. It is of interest to note that 484 grades were listed, including duplications. When all these have been eliminated, the actual number of grades to be sold is reduced to 90. According to The National Fertilizer Association, more than 850 grades were listed in these same States in 1939, and this did not include special mixtures. This reduction in the number of grades is an accomplishment which all interested in the use of fertilizers can well be proud of. Certainly we can all hope that, when we have defeated the enemy, we shall never return to the wasteful procedure we so long followed.

It has been estimated that the reduction in the number of grades should result in a

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November Superphosphate Production

November statistics on superphosphate, announced by Director J. C. Capt, U. S. Bureau of the Census, show that production amounted to 467,520 tons, an increase of 4.2 per cent over the 448,757 tons reported for October, 1942, and an increase of 25.2 per cent over the 373,285 tons reported for November a year ago. Shipments in November, 1942 amounted to 354,473 tons, about the same amount (354,509 tons) reported for October, 1942, but a 36.3 per cent increase over the 260,144 tons reported for November, 1941. Stocks on hand at the end of November, 1942, amounted to 996,130 tons, a decrease of 3.2 per cent from the 1,029,415 tons reported for the previous month but an increase of 6.7 per cent over the 933,896 tons reported for November, 1941. Comparability of the data on receipts, shipments, and stocks is slightly affected by the reclassification of certain quantities of superphosphate formerly reported in dry base and mixed goods. The item dry base and mixed goods was dropped from the published report in August. Since then, the superphosphate formerly included in dry base and mixed goods has been reported as either normal or concentrated superphosphate. Data for this report were obtained from reports by 52 manufacturers, representing 95 per cent of

the total value of superphosphate as reported at the Biennial Census of Manufacturers, 1939.

Beginning with the month of September, 1942, statistics relating to production, receipts, shipments, and stocks include all grades of superphosphate (normal, concentrated, and wet base goods) converted to a basis of 18 per cent available phosphoric acid. The reports for months prior to September, 1942, showed data on a 16 per cent basis. However, for comparative purposes they have been converted to 18 per cent APA basis in the table below.

Hardenbrook Appointed by Union Bag and Paper

Donald J. Hardenbrook, recently appointed Post-War Planning Manager of Union Bag and Paper Corporation, has now been made Assistant to the President of the company, largest U. S. manufacturer of kraft paper bags and one of the largest producers of kraft paper and board in the country. In making this announcement Alex Calder, President, said that Mr. Hardenbrook would continue to have full responsibility for post-war planning.

The new Assistant to the President is a member of the Drafting Committee of the Post-War Planning Committee of the N.A.M.

Item	1942		1941	1940	Total, 11 months (January–November)		
	November	October	November	November	1942	1941	1940
Stocks on hand beginning of month	1,029,415	1,045,187	935,081	908,809			
Production	467,520	448,757	373,285	367,324	4,659,208	3,893,017	3,520,758
Received from other acidulators (including exchange transfers) ¹	10,891	6,198	41,204	47,661	282,801	457,419	367,303
Book adjustments (account of inventories)	+1,677	–1,260	–232	–1,500	–23,704	–4,315	–27,881
Total supply	1,509,503	1,498,882	1,349,338	1,322,294			
Disposition, total	513,373	469,467					
Shipments, total	354,473	354,509	260,144	175,076	3,609,766	3,352,256	2,736,271
To mixers	169,055	149,290	125,539	95,245	1,728,528	1,497,874	1,407,317
To other acidulators (including exchange transfers)	42,486	45,884	56,755	39,254	490,435	589,262	435,340
To all others (including Government agencies)	142,932	159,335	77,850	40,577	1,390,803	1,265,120	893,614
Used in reporting plants	158,900	114,958					
Stocks on hand, end of month	996,130	1,029,415	933,896	1,106,360			

¹ Reported as stocks on hand October 31, 1941.

² Reported as stocks on hand October 31, 1940.

³ Data for November, October, and September, 1942 exclude base and mixed goods; data for other months shown include base and mixed goods.

⁴ Not available.

Price Ceiling On Fertilizers Raised

Office of Price Administration Issues Amended Order on Mixed Fertilizers and Superphosphates.
Some Cost Increases Must be Absorbed by Manufacturers.

CONSUMER ceiling prices on mixed fertilizer and superphosphate were raised in specified areas on December 29th by the Office of Price Administration in order to give manufacturers relief from part of their recent cost increases.

The increases vary from area to area, with the highest adjustments allowed in the Northeastern states and no increases permitted on the Pacific coast.

The price increases, however, possibly may be made greater—except in the Far West—by extensive use of oilseed meals for nitrogen in mixed fertilizers. These meals are costly sources of nitrogen, for which special price allowances are made.

The upward adjustments, OPA said, represent an absolute minimum needed to secure sufficient production of commercial fertilizer for farmers of the United States who are being asked to produce increased quantities of food, feed and fiber crops in 1943 to fill war requirements.

Fertilizer manufacturers have been deprived by the war of many of their lowest cost sources of raw materials and forced to turn to more expensive sources.

Most of the synthetic nitrogen solutions customarily used by the industry have been allocated for the manufacture of explosives. In addition, fertilizer manufacturers have suffered severely from increased transportation costs because in the past they have used water transport and have now been forced to turn to rail shipments due to the lack of ships.

Under the new adjustment, fertilizer manufacturers are required to absorb increases in the cost of factory labor, other operating costs, outbound transportation where sales are on a delivered basis and part of the increase in transportation costs on inbound materials as well as part of the increase in cost of nitrogen.

Only those costs which could not be absorbed by the manufacturers have been passed on, OPA said.

Price relief is granted to cover part of the increased nitrogen costs in states where the industry customarily has used considerable organic nitrogen. In addition a special price provision is designed to encourage the use of

all available organic nitrogen materials, including any oilseed meals which may be available in excess of livestock feeding requirements. The price allowances cover the additional cost to manufacturers who use organic nitrogen in excess of the customary amount in any mixed fertilizer.

The adjustments are made in Revised Maximum Price Regulation No. 135 (Mixed Fertilizer, Superphosphate and Potash) effective January 4, 1943.

Maximum prices are based on levels of February 16–20, 1942, with adjustments provided in Appendix "A" to cover the unabsorbable portion of the increased costs.

The revised regulation has the usual requirement that retail sellers must post their ceiling prices prominently in their places of business.

Other changes include:

1. Sales by manufacturers to dealers, and all sales to consumers in quantities of less than 250 pounds, formerly were covered by the General Maximum Price Regulation. All sales to dealers and consumers are now covered under Revised Maximum Price Regulation No. 135.

2. The seller no longer has the option of establishing maximum prices on the basis of average prices charged during the period from February 16 to 20, 1942, or using his schedule prices. Now, if during that base period he had no price in effect for a grade, he cannot adopt the maximum price of a competitor as formerly, but must submit for approval a price in line with his own level of prices during the base period.

3. The revised regulation sets maximum margins on sales by dealers to consumers so that the prices consumers pay to dealers will be more nearly in line with prices the consumers would pay if they bought directly from a manufacturer or from an agent of a manufacturer.

4. Manufacturers who have not previously done so are required to file with the Office of Price Administration in Washington a copy of each written or printed price schedule in effect after July 1, 1941, or a list of maximum prices charged if no written or printed schedules were issued.

5. Instructions for handling Federal, State and Municipal taxes are included in the new regulation, including the new 3 per cent transportation tax.

6. Applications for price adjustment in connection with government contracts must be filed under Procedural Regulation No. 6.

7. The new regulation provides for appropriate adjustment of prices if goods are packed in a more expensive or less expensive kind of bag than was provided when maximum prices were established.

8. The revised regulation provides maximum prices for the new "Victory Garden" fertilizer approved by the War Production Board for the production of vegetables and small fruits in victory gardens.

9. The base prices for manufacturers selling in Florida have been rolled back to those in effect on July 31, 1941. The February, 1942 freeze established maximum prices in that state for some manufacturers at levels relatively more favorable than those of other manufacturers. The use of an earlier period results in more equitable bases for price adjustment among Florida sellers.

Sales of nitrate of soda, sulphate of ammonia and cyanamide to dealers and consumers remain under Maximum Price Regulation No. 108. Nitrate of soda and cyanamide at producers' levels are covered by the General Maximum Price Regulation. Prices for sulphate of ammonia at producers' levels remain under Maximum Price Regulation No. 205.

§ 1367.44 Appendix A: Amounts per ton net to manufacturer which may be added to manufacturer's prices for places of delivery in the states named below:

1. Places of Delivery

MAINE			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-14.....	\$1.68	4-10-10.....	\$2.00
0-20-20.....	2.40	4-16-20.....	2.72
3-10-10.....	1.80	5-20-10.....	3.40
3-12-6.....	2.04	6-9-15.....	2.28
3-12-15.....	2.04	6-12-18.....	2.64
4-9-7.....	1.88	6-15-15.....	3.00
4-12-4.....	2.24	0-18-0.....	2.16
4-8-12.....	1.76	0-20*-0.....	2.40
*Or higher.			

VERMONT			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-14.....	\$1.68	4-16-20.....	\$2.72
0-20-20.....	2.40	5-3-5 ¹	4.36
3-10-10.....	1.80	5-20-10.....	3.40
3-12-6.....	2.04	6-3-6 ¹	5.16
3-12-15.....	2.04	6-15-15.....	3.00
4-9-7.....	1.88	0-18-0.....	2.16
4-12-4.....	2.24	0-20*-0.....	2.40
4-10-10.....	2.00		
*Or higher.		¹ Tobacco only.	

¹ Tobacco only.

NEW HAMPSHIRE			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-14.....	\$1.68	4-10-10.....	\$2.00
0-9-27.....	1.08	4-16-20.....	2.72
0-20-20.....	2.40	5-3-5 ¹	4.36
3-10-10.....	1.80	5-20-10.....	3.40
3-12-6.....	2.04	6-3-6 ¹	5.16
3-12-15.....	2.04	6-15-15.....	3.00
4-9-7.....	1.88	0-18-0.....	2.16
4-12-4.....	2.24	0-20*-0.....	2.40
*Or higher.			

¹Tobacco only.

MASSACHUSETTS			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-14.....	\$1.68	4-10-10.....	\$2.00
0-9-27.....	1.08	4-16-20.....	2.72
0-20-20.....	2.40	5-3-5 ¹	4.36
3-10-10.....	1.80	5-20-10.....	3.40
3-12-6.....	2.04	6-3-6 ¹	5.16
3-12-15.....	2.04	6-15-15.....	3.00
4-9-7.....	1.88	0-18-0.....	2.16
4-12-4.....	2.24	0-20*-0.....	2.40
*Or higher.			

¹Tobacco only.

RHODE ISLAND			
Grade:	Amount per ton	Grade:	Amount per ton
0-9-27.....	\$1.08	4-12-4.....	\$2.24
0-14-14.....	1.68	4-10-10.....	2.00
0-20-20.....	2.40	4-16-20.....	2.72
3-10-10.....	1.80	5-20-10.....	3.40
3-12-6.....	2.04	6-15-15.....	3.00
3-12-15.....	2.04	0-18-0.....	2.16
4-9-7.....	1.88	0-20*-0.....	2.40
*Or higher.			

CONNECTICUT			
Grade:	Amount per ton	Grade:	Amount per ton
0-9-27.....	\$1.08	4-12-4.....	\$2.24
0-14-14.....	1.68	4-16-20.....	2.72
0-20-20.....	2.40	5-3-5 ¹	4.36
3-10-10.....	1.80	5-20-10.....	3.40
3-12-6.....	2.0	6-3-6 ¹	5.16
3-12-15.....	2.04	6-15-15.....	3.00
4-9-7.....	1.88	0-18-0.....	2.16
4-10-10.....	2.00	0-20*-0.....	2.40
*Or higher.			

¹Tobacco only.

NEW YORK			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$1.12	4-10-5.....	\$1.60
0-12-12.....	.96	4-12-4.....	1.76
0-16-8.....	1.28	4-8-12.....	1.44
0-14-14.....	1.12	4-10-10.....	1.60
0-24-12.....	1.60	4-16-4.....	2.08
0-20-20.....	1.60	4-16-8.....	2.08
2-8-10.....	1.04	0-18-0.....	1.44
3-12-6.....	1.56	0-20*-0.....	1.60
3-12-15.....	1.56	*Or higher.	

NEW JERSEY			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$1.12	3-18-9.....	\$2.04
0-12-12.....	.96	4-12-4.....	1.76
0-16-8.....	1.28	4-10-5.....	1.60
0-14-14.....	1.12	4-8-12.....	1.44
0-24-12.....	1.60	4-10-10.....	1.60
0-20-20.....	1.60	4-12-8.....	1.76
2-8-10.....	1.04	4-16-8.....	2.08
2-12-6.....	1.36	0-18-0.....	1.44
3-12-6.....	1.56	0-20*-0.....	1.60
3-12-15.....	1.56	*Or higher.	

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New Food Production Order Issued

Food Production Order No. 5. The United States Department of Agriculture has issued Food Production Order No. 5, which supersedes WPB Order M-231 as amended December 4, 1942.

1. The new Order is based on M-231, in the preparation of which U. S. D. A. had a large part, but with a few changes and some major additions.

2. The following changes have been made in the lists of approved grades:

(a) A new grade "3-10-10" has been added for each of the six New England States.

(b) A new grade "3-8-12" has been added for Delaware, Maryland and District of Columbia, and Pennsylvania.

(c) In Texas 3-15-0 may now be used on any crop; and 10-10-0 and 10-20-0 may be used on fruits and vegetables in the Rio Grande Valley.

3. The following changes have been made in the Grade Substitution Plan:

(a) A new grade "3-10-10" has been added to Group 2 of the 1942-43 grades for each of the six New England States.

(b) A new grade "3-8-12" has been added to Group 3 of the 1942-43 grades for Delaware and Pennsylvania.

(c) The following has been added: "Notwithstanding any other provision of this paragraph (c) (1) or of paragraph (c) (2), grades containing four or less per cent nitrogen manufactured, delivered and used in 1940-1941 on crops described as vegetable crops in Schedule III may be replaced by approved grades containing the same percentage of nitrogen as the grade replaced."

(d) The schedule for Kentucky has been changed so that 2 per cent N grades will be replaced by 2-2-6. Three per cent N grades will be replaced by 2-12-6; or by 3-9-6, 3-9-18, 3-12-3, or 3-12-12, which must carry at least one unit of organic nitrogen.

(e) The schedule for Maryland and District of Columbia has been changed so that 2 per cent N grades will be replaced by 2-8-10, 2-12-6, and 2-12-12. Three per cent N grades will be replaced by 2-8-10, 2-12-6 and 2-12-12; or by 3-8-12, 3-9-15, and 3-12-6, which must carry at least one unit of organic nitrogen.

(f) The schedule for Tennessee has been changed so that 2 per cent N grades will be replaced by 2-8-10 and 2-12-6. Three per cent grades will be replaced by 2-8-10 and

2-12-6; or by 3-9-6, which must carry at least one unit of organic nitrogen.

(g) A grade having a nitrogen content lower than that authorized for use in the 1942-43 season may be used, at the election of the user, during such season.

4. The Order prohibits the delivery and use of chemical fertilizer containing chemical nitrogen for melon or cucumber crops except where grown for seed production or, in the case of cucumbers, when grown for processing.

5. The Order prohibits the delivery and use, prior to July 1, 1943, of mixed fertilizer containing chemical nitrogen for spring-sown small grains to be harvested for grain. However, the Order does not prohibit the delivery or use of nitrogen materials for top-dressing fall-sown or spring-sown small grains, or of mixed fertilizers containing chemical nitrogen for top-dressing fall-sown small grains.

6. The new Order omits the requirement that "Victory Garden Fertilizer" 3-8-7 contain organic nitrogen; and permits a farmer to use any fertilizer purchased pursuant to the Order on his Victory garden.

7. The Order requires that each manufacturer, dealer, and agent make chemical fertilizer containing chemical nitrogen available in 1942-43 in each locality in which he made it available in 1941-42, unless he has adequate proof that crop requirements are adequately served.

8. The Order prohibits discrimination, in delivering chemical nitrogen as straight material, against home mixing.

9. The Order prescribes methods for arriving at "requirements" of individual farmers for chemical fertilizer containing chemical nitrogen for different crops, and prohibits the delivery or use of such fertilizer in excess of such requirements.

10. The Order classifies the following as Group A Crops: castor beans, cotton ($1\frac{1}{8}$ inch or longer staple), flax (fiber and seed), guayule, hemp (fiber and seed), hybrid corn for production of seed only, peanuts, soybeans, dry beans, snap beans, lima beans, beets, cabbage, carrots, kale, onions, peppers, dry edible peas, green peas, Irish potatoes, sweet potatoes, sweet corn, spinach, tomatoes, vegetable seeds, tung trees, and the following fruits for drying, raisins, apricots, figs, prunes, and peaches. The B Crops are all other crops except those as to which the use of chemical nitrogen is restricted by the Order. (Small grains are defined by the U. S. Department of Agriculture as wheat, oats, barley, rye, emmer and spelt.)

Group A Crops will have priority and should receive the full amounts of fertilizer used in

the base period in keeping with the grade substitution plan. The usual or customary rates of application will govern, but the rates may not exceed those recommended by State experiment stations.

To make sure that A Crops are adequately fertilized, not more than 75 per cent of the straight chemical nitrogen materials required for use on field corn, and on cotton stapling less than $1\frac{1}{8}$ inch may be delivered before May 1. (Staple length will be determined by the variety grown, hence it will be helpful if the variety name is shown on the farmer's application for fertilizer. The U. S. D. A. will make an announcement as to cotton varieties in the near future. Also if hybrid corn is to be produced for seed, this fact should be indicated on the application.)

In the Middle West not more than half of the mixed fertilizer containing chemical nitrogen for use on field corn may be delivered before April 1.

In making deliveries of fertilizer containing chemical nitrogen the manufacturer, agent, and dealer must fill orders for A Crops before filling orders for B Crops requiring such fertilizer at the same time or at a later time.

11. The Order requires the use of application forms in making sales of fertilizer to farmers. The language follows:

j. Records. (1) No manufacturer, dealer or agent shall, in the year ending June 30, 1943, deliver to any person other than a manufacturer, dealer or agent chemical fertilizer (except victory garden fertilizer 3-8-7 and any grade of fertilizer the nitrogen content of which consists entirely of organic nitrogen), unless prior to such delivery, he shall have received from the person to whom delivery is to be made for use (hereinafter referred to as the applicant) a written statement containing the following information:

(i) The quantity of fertilizer used during the season July 1, 1940 to June 30, 1941 (or during the season July 1, 1941 to June 30, 1942, if information for the prior season is not available), by quantity, grade or material, crops and acreage of crops fertilized.

(ii) That the applicant is or is not farming the same land in the 1942-1943 season as in the season for which information is given in response to paragraph (j) (1) (i).

(iii) The total fertilizer requirements for the season which began July 1, 1942, by crops, acreage of crops, grades of mixed fertilizer or materials and quantity required.

(iv) The fertilizer, if any, which has been ordered from any other supplier, but which has not been delivered.

(Continued on page 18)

Tag Sales in 1942 at New Peak

The sale of fertilizer tax tags in the 17 reporting states amounted to the equivalent of 6,196,258 tons of fertilizer. This represented an increase of 271,581 tons, or 4.6 per cent over 1941. Sales were the largest on record, exceeding the previous peaks of 1930 and 1937 by good margins.

The increase over 1941 was due in great part to larger sales in the second half year. Sales of 4,840,432 tons in January-June, 1942 exceeded the corresponding period of 1941 by only 12,870 tons. The increase in July-December was 258,711 tons. It seems probable that the increase in sales in the last few

months reflected the sale of tags for use in the year 1943 and did not indicate a correspondingly large increase in actual fertilizer shipments in 1942.

Six of the twelve Southern States reported larger sales in 1942 than in 1941. The increase for the region as a whole was 2.9 per cent. A rise of 18.5 per cent in the Midwest was the net result of increases in three States and declines in two.

It seems likely that fertilizer consumption in the entire country was somewhat larger than in any preceding year. Complete information will not be available for several weeks, until the annual survey by the National Fertilizer Association is completed.

ANNUAL FERTILIZER TAX TAG SALES

State	1937	1938	1939	1940	1941	1942
Virginia.....	440,430	405,179	418,089	393,069	399,377	420,668
North Carolina.....	1,236,564	1,104,788	1,215,887	1,076,730	1,150,343	1,243,612
South Carolina.....	771,198	660,963	678,859	685,310	729,447	698,704
Georgia.....	866,360	768,323	689,790	762,725	806,326	852,765
Florida.....	579,399	555,475	556,782	568,671	654,664	650,577
Alabama.....	629,260	528,850	562,100	575,900	581,500	574,150
Mississippi.....	325,320	325,836	318,761	319,508	368,667	377,082
Tennessee.....	141,325	128,291	130,354	147,311	141,461	174,298
Arkansas.....	68,675	67,800	74,122	101,000	123,975	140,458
Louisiana.....	157,318	148,542	160,488	156,775	182,010	173,241
Texas.....	89,400	84,276	95,226	118,199	142,666	133,974
Oklahoma.....	6,845	8,005	7,622	7,363	12,950	8,752
Total South.....	5,312,094	4,786,328	4,908,080	4,912,561	5,293,386	5,448,281
Indiana.....	274,640	235,297	263,145	302,750	340,161	436,679
Illinois.....	47,764	43,278	43,456	51,748	63,004	82,526
Kentucky.....	117,078	109,968	120,009	123,102	121,976	146,420
Missouri.....	82,498	70,301	67,733	87,577	86,964	70,937
Kansas.....	15,267	18,099	14,366	17,931	19,186	11,415
Total Midwest.....	537,247	476,943	508,709	583,108	631,291	747,977
Grand Total.....	5,849,341	5,263,271	5,416,789	5,495,669	5,924,677	6,196,258
Total U. S. Fertilizer Consumption.....	8,246,596	7,570,917	7,788,619	8,317,070	9,253,729	—

BRADLEY & BAKER

FERTILIZER MATERIALS - FEEDSTUFFS

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 504 Merchants Exchange Bldg., St. Louis, Mo.

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

FERTILIZER MATERIALS MARKET

NEW YORK

Release of Ammonia Liquor for Fertilizer Use Relieves Nitrogen Situation. Shortage of Organic Ammoniates and Concentrated Superphosphates Creates Problems for Growing Certain Crops.

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, January 26, 1943.

With the release of considerable quantities of ammonia liquors to the fertilizer manufacturers, the inorganic ammonia situation has been relieved somewhat for the time being.

There has been no change in the situation on organic ammonia but probably, it will be necessary that some special consideration be made in order to allow fertilizer manufacturers to obtain certain quantities for the manufacture of mixed fertilizers for certain crops where the organic ammonia is considered essential.

Potash

There is no change in this situation although special consideration has been given to several fertilizer manufacturers who found themselves considerably short on this essential fertilizer material. It is possible that this special consideration may mean that some of the other contracts may be reduced somewhat. Shipments are continuing against contracts with no other new business being accepted.

Fish Meal

This material is still unavailable.

Superphosphate

This material continues in good demand, but with the lack of high test material, demands for ordinary superphosphate will probably increase.

The request for increased production of certain crops where high test superphosphate is considered essential is causing an unfortunate situation, but it is possible that the situation will be relieved when matters are called to the attention of the proper authorities.

BALTIMORE

Classification of Chemical Nitrogen Materials Announced. Use of Nitrate of Soda in Mixtures Increased. New Superphosphate Ceiling Expected.

Exclusive Correspondence to "The American Fertilizer"

BALTIMORE, January 26, 1943.

Interest in the fertilizer trade during the past week has been in the issuance of order by the Secretary of Agriculture restricting and classifying distribution of chemical nitrogen fertilizer which may be used on certain crops, and grouping of various crops under designation of "A" and "B."

Ammoniates.—Tankage and blood continue in short supply with such a good demand for feeding purposes at ceiling prices that there is practically none of this material offering for fertilizer purposes.

Nitrogenous Material.—There is no change in the situation and offerings are few and far between.

Vegetable Meals.—Up to the present time it has been practically impossible to secure offerings for February and forward delivery, although it is anticipated in the near future producers will consider taking on some tonnage for this delivery.

Sulphate of Ammonia.—Allocations are still being made in a limited way through OPA but the tonnage obtainable this year as compared with last year leaves much to be desired.

Nitrate of Soda.—Allocations of this material have been more liberal in consequence of which many manufacturers are using nitrate of soda to displace sulphate of ammonia in their mixtures.

Superphosphate.—There are reports that ceiling price will soon be fixed on this material for sale to dry mixers at slightly increased prices over those prevailing at the

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- SUPERPHOSPHATE
- DOUBLE
SUPERPHOSPHATE
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- SULPHURIC ACID
- SULPHATE of
AMMONIA
- BONE MEALS
- POTASH SALTS
- DRIED BLOOD
- TANKAGES
- COTTONSEED MEAL
- BONE BLACK
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Baltimore, Md.
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Cincinnati, Ohio
Columbia, S. C.
Columbus, Ga.
East St. Louis, Ill.
Greensboro, N. C.
Havana, Cuba

Houston, Texas
Jacksonville, Fla.
Montgomery, Ala.
Nashville, Tenn.
New Orleans, La.
New York, N. Y.

Norfolk, Va.
Presque Isle, Me.
San Juan, P. R.
Sandusky, Ohio
Wilmington, N. C.

present time. This difference, however, will hardly offset increased cost of production brought about by higher freight and labor rates.

Bone Meal.—The market on both raw and steamed bone meal is practically nil, with no offerings or inquiries on the market.

Bags.—With improvement in arrivals of burlap from India, the situation is easing up somewhat, but there are still restrictions preventing the use of new bags for shipments of fertilizer.

ATLANTA

Oil Seed Order Closes Principal Fertilizer Organic Supply. Nitrogenous Supplies Insufficient. Chemical Nitrogen Still Allocated.

Exclusive Correspondence to "The American Fertilizer"

ATLANTA, January 11, 1943.

Fertilizer manufacturers are confronted with an even tighter situation in regard to organic ammoniates following the issuance of Oil Seed Order No. 7, made effective January 2nd. The fertilizer manufacturers generally had expected a reasonably large quantity of oil seed meals to be available for manipulation into commercial fertilizers. This Oil Seed Order No. 7 prohibits purchase or delivery of cottonseed, soya, peanut and linseed meals for manufacture into mixed fertilizer for sale until further notice. When the manufacturers look elsewhere for sources of organics, they find the market practically bare of offerings.

Nitrogenous producers continue to follow the policy of endeavoring to take care of former customers in so far as possible. Unless the Order No. 7 is lifted or modified to permit the use of some of these oil seed meals in mixed fertilizer, manufacturers have little possibility of securing enough nitrogen to take care of the demand.

Superphosphate.—The market remains firm

and is nominally quoted at 61 cents, Atlanta, most mixers having bought their season's requirements some time ago.

Sulphate of Ammonia.—This material continues to be allocated by the War Production Board with no change in price originally set by the OPA. No recent allocations have been made in the Southern territory.

Nitrate of Soda.—Nitrate of soda continues to be allocated, with some tonnage being allocated during January for direct application purposes.

PHILADELPHIA

Demand Exceeds Supply in All Lines. Many Materials Moving Only on Old Contracts. Russian Potash Shipment Reported.

Exclusive Correspondence to "The American Fertilizer"

PHILADELPHIA, January 25, 1943.

The Philadelphia market is probably in about the same condition as the rest of the country, demand for exceeding supply. This phrase could apply to all the fertilizer and feeding materials.

Ammoniates.—Animal tankage and dried blood are almost non-existent as far as the fertilizer mixer is concerned. Small, odd lots that do show up very infrequently, go mostly to the feed trade at ceiling levels.

Nitrogenous Material.—Being allocated to old customers.

Sulphate of Ammonia.—WPB is allowing somewhat more liberal quantities to fertilizer interests.

Nitrate of Soda.—Somewhat larger quantities, with WPB permission, are being allocated to fertilizer mixers.

Fish Scrap.—Shipments of menhaden meal are being made only against old contracts.

Superphosphate.—The possibility of ceiling price on this commodity has been suspended for an indefinite time. Shipments against contracts moving out in fair volume.

Manufacturers' Sales Agents for **DOMESTIC**

Sulphate of Ammonia

Ammonia Liquor :: Anhydrous Ammonia

HYDROCARBON PRODUCTS CO., INC.

500 Fifth Avenue, New York

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Bone Meal.—Prices holding firm with very little of either steamed or raw material offered.

Potash.—Interest being shown in the expected arrival of a lot of Russian muriate of potash. Otherwise, situation is tight, with some interest being shown in the possibility of securing resale lots, without much success.

CHARLESTON

Industry Worried Over Shortage of Organics. Even Feeding Grades of Organics Scarce. Quotations Nominal.

Exclusive Correspondence to "The American Fertilizer"

CHARLESTON, January 25, 1943.

The fertilizer manufacturers are seriously worried over the shortage of organics and so far no solution of the problem has been offered.

Nitrogenous.—Offerings on this material are still not available.

Castor Meal.—In spite of recent pretty heavy arrivals of beans from South America, the producers of castor meal are unable to quote, the meal they are now producing being applied on delayed transactions.

Blood.—Even the feed manufacturers are experiencing difficulty getting their needs.

Cottonseed Meal and Soya Meal.—Cottonseed meal, 8 per cent grade, is quoted at \$36.30, Atlanta, and soya meal at \$46.20, but these quotations are entirely nominal.

CHICAGO

Manufacturers' Need for Fertilizer Organics Urgent. Ceiling Prices No Deterrent. Feed Demand Continues Active.

Exclusive Correspondence to "The American Fertilizer"

CHICAGO, January 25, 1943.

Strong demand for organics continues, but no offerings have appeared. Unless offerings develop during February, it may be too late for the spring business. Price seemingly is no incentive, buyers being willing to pay full

ceiling prices, but that does not draw any response from sellers. The entire situation is new and strange to the most experienced people in the trade.

The feed market in wet and dry rendered tankage is unchanged. Consuming demand of the finished products continuing active, causing producers to allocate deliveries.

No changes in ceiling prices: High grade fertilizer tankage, \$3.85 to \$4.00 (\$4.68 to \$4.98½ per unit N) and 10 cents; standard grades crushed feeding tankage, \$5.53 per unit ammonia ((\$6.72 per unit N); blood, \$5.38 (\$6.54 per unit N); dry rendered tankage, \$1.21 per unit of protein, Chicago basis.

TENNESSEE PHOSPHATE

New Grinding Plant Stops Construction Work. Rubber and Gasoline Shortage Affects Mining Operations. Few Bids on AAA Requirements.

Exclusive Correspondence to "The American Fertilizer"

COLUMBIA, TENN., January 25, 1943.

Work is proceeding rapidly on the various installations and construction under way at the Carbon, Defense and TVA plants north of Columbia and in the various phosphate plants in the field proper near Mt. Pleasant.

The plant which was reported some weeks ago as being constructed on Swan Creek, about five miles from Centerville, to dry and grind rock, was reported to have ground five truckloads of coarsely ground phosphate and is now closed down entirely without having completed construction. No report has been obtainable as to whether or when work is expected to resume. Of course, present conditions are absolutely adverse to the success of any such undertaking, especially where previous experience is entirely lacking.

Several large phosphate plants, some of whom abandoned use of narrow-gauge mine railroads and some who started from the first using trucks entirely for transporting



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Knoxville, Tenn.

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ST. REGIS MULTIWALL PAPER BAGS



St. Regis Multiwall Paper Bags have from three to six independent "walls" of tough, strong kraft paper especially made and treated to give the utmost strength and protection.

Every St. Regis Bag of fertilizer *delivers* full weight ... for there's no sifting. All the fertilizer delivered is *useable* ... for none can stick to Multiwall's smooth insides. Your customers get extra protection against damage from moisture and against breakage caused by hygroscopic, high analysis fertilizers.

You may find, as many others have, that changing over your present filling and closing equipment and packing your fertilizer in St. Regis Multiwalls will be a lot easier than you think. You won't have to worry about shortages of supply ... now or later. You'll get what you want ... when you want it.



Offices also at:

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Denver, Colo.
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San Francisco, Calif.

Seattle, Wash.
Toledo, Ohio

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

the raw material from mines to preparation plants, are now suffering somewhat from the rubber and gasoline situation and will, of course, suffer still more as the situation in that respect more closely approaches the conditions in the East. It is hoped they will weather through without being entirely cut off from raw material.

One effect of this situation is reflected in the fact that only one bid from Tennessee was made on the invitation of AAA for 60,000 tons for Illinois during 1943, and that only for ten thousand tons in the last half of the year. It is reported that so far only 36,000 tons have been secured from Florida producers and no report is so far available as to intended use of ground phosphate rock by AAA in any other states.

The Illinois price by AAA for coarsely ground low grade rock is announced as \$13.50 in 1943. It was \$12.80 last year. In the eighteen states which make benefit payments for use of ground phosphate rock, the prices have been advanced about \$1.50 per ton over the scale prevailing last year but, so far as known, grants of aid on this material are only made in Illinois. Use of rock phosphate in Illinois in 1942 went far beyond any previous year on record as it also did in the entire country, a little over 200,000 tons being used.

The fertilizer industry was successful in getting the ODT to reduce the minimum car load on fertilizer from 80,000 to 60,000 pounds, which on eight million tons would mean use of 70,000 additional box cars, but this reduction was not made on ground phosphate rock used for fertilizer, which would require 1,700 more cars. Farmers were not given much consideration in this by ODT.

NEW FOOD PRODUCTION ORDER ISSUED

(Continued from page 11)

(v) The fertilizer which the applicant has used since July 1, 1942, to take care of the above requirements, and also the fertilizer which he has on hand.

(vi) Signature and address of applicant, date of signing statement and the name of the dealer, agent or manufacturer to whom the statement is given.

(2) Each manufacturer shall provide a sufficient quantity of the form of statement provided for by paragraph (j) (1) for his own use and the use of his agents and dealers, such statements to be signed in duplicate, one of the copies to be given to the applicant for his files, and the other to be retained by the manufacturer or his dealer or agent.

Fertilizer Recommendations for 1944 Being Considered

The Committee on Fertilizers of the American Society of Agronomy, under the leadership of Dr. F. W. Parker, general chairman, and Dr. C. E. Millar of Michigan, chairman of the Subcommittee on Fertilizer Ratios, has already begun work on fertilizer recommendations for 1944. Dr. Millar states that the committee's objectives are:

1. Selection of fertilizer grades required for maximum crop production for each State with as much uniformity as possible between States and adjoining regions.

2. Formulation of fertilizer recommendations for various crops with due consideration to uniformity between States.

3. Adoption of procedures in States so that there will be a reasonable limitation of fertilizer grades by State action after Federal control is terminated.

4. Adoption of procedures in States so that comprehensive statistics on fertilizer consumption will be secured and published regularly.

This work will be carried on under the leadership of the agronomists who served as regional chairmen of conferences held last summer, all of whom are now members of the Subcommittee on Fertilizer Ratios.

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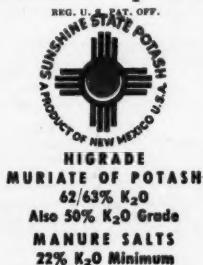


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TO LAUNCH SPRING OFFENSIVE

WITHIN a few months, farmers all over the Nation will again swing into action to fight the battle of food production. For it is they who must help to feed the whole free world—to give us all the strength and vigor to win. To aid them in their fight, scientific fertilizers must be supplied. And we are proud to be able to

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Sunshine State Higrade Muriate of Potash and the other grades you know mean bumper crops that enjoy greater resistance to disease and drought.

Together, let us do our part to help in this vital battle.

UNITED STATES POTASH COMPANY, Incorporated • 30 ROCKEFELLER PLAZA, NEW YORK CITY

THE EQUITABLE DISTRIBUTION OF FERTILIZER

(Continued from page 6)

saving of 26,000 tons of nitrogen. There is some question in my mind, however, as to whether a mere reduction in the number of grades will accomplish this. In fact, it is conceivable that in some States the reduced number of grades might possibly result in an increase in the amount of nitrogen used.

Substitute Grade Plan

In order to avoid this, a substitute grade program has been proposed. This was recently released by The National Fertilizer Association so that you have probably all seen a copy of the proposed plan.

Briefly, this plan merely means that the grower who used a certain analysis in 1941-42, will use a somewhat similar grade carrying the same or one less unit of nitrogen in 1943. In Georgia, for example, grades which carried less than 2 per cent nitrogen in 1941-42 will be replaced by a mixture carrying no nitrogen in 1943. Those with 2 per cent nitrogen will be replaced by a grade carrying 2 per cent. Those with 3 per cent nitrogen will be replaced by a 2-12-6 made up of all inorganic nitrogen, or a 3 per cent goods which must carry at least one unit of organic nitrogen. Those which carried 4 per cent nitrogen will be replaced with a 3 per cent grade, and those with 5 per cent will be replaced with a 4 per cent. This means that the Georgia grower who purchased 100 tons of a 5 per cent nitrogen goods in 1941-42 will find it possible to purchase a similar amount of a 4-8-4, 4-8-6, or 4-8-8 next year. A similar arrangement has been devised for the other States included in order M-231.

This grade substitute plan has been adopted by the committee on fertilizer distribution. It should be pointed out that one of the chief reasons for the selection of this plan by the committee was its simplicity. Obviously, the proposed plan is easily operated by the local dealer. It is likewise apparent that the substitute grade plan should not impair our crop production program.

In this connection it should be pointed out that in the past few months other plans for

the distribution of fertilizer have been proposed. It was suggested, for example, that the plan of distribution should be based entirely on crops. To anyone who has given this plan careful consideration, it is soon obvious that this would be a most difficult plan to operate. It could possibly be made to work but it would certainly be accompanied by many difficulties.

It was also suggested by some that the grower who purchased a certain analysis in 1941-42 be permitted to purchase approximately 80 per cent of the same analysis next year. This procedure would unquestionably result in decreased yields. On the other hand, the substitute grade plan outlined above could be adopted with little or no yield reduction.

Fertilizer Rationing Unnecessary

In this connection, it should be pointed out that the question has been raised from time to time concerning the advisability of rationing fertilizer in order to accomplish the desired end. I will not attempt to answer this in detail. I would like, however, to read a telegram which I sent to T. E. Milliman on October 12, when this matter was being discussed.

"Fertilizer rationing unnecessary at present time for following reasons: (1) Shortage not critical; (2) W. P. B. has devised plan which should insure equitable distribution of present supplies; (3) Fertilizer industry has necessary machinery and prepared to operate proposed plan of distribution; (4) Attempt to set up rationing plan now would result in confusion and possibly seriously delay mixing fertilizer for next year; (5) Rationing plan would result in needless expense."

I think we are all agreed that if a critical shortage should develop, a rationing program should be put into operation. On the other hand, I still see no reason for a rationing program at this time.

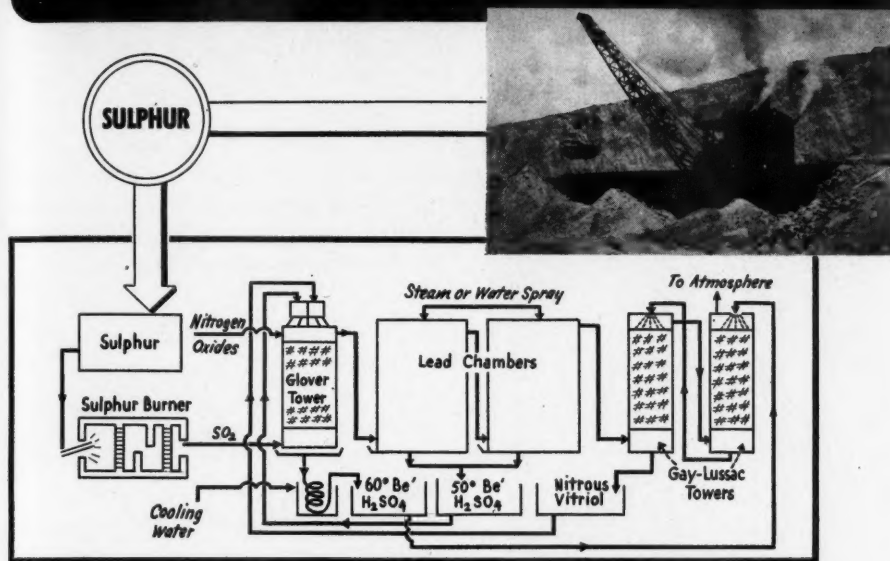
Whether or not we will have rationing in the near future will depend to some extent on the action of the fertilizer industry. As matters now stand, the equitable distribution of available fertilizer supplies lies in your hands. If you fall down on the job—someone

Stedman	FERTILIZER PLANT EQUIPMENT			
	Dependable for Fifty Years	All-Steel Self-Contained Fertilizer Mixing Units	Batch Mixers— Dry Batching Pan Mixers— Wet Mixing	Swing Hammer and Cage Type Tallings Pulverizers
Founded 1884			Vibrating Screens Dust Weigh Hoppers Acid Weigh Scales	

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Sulphur is burned to sulphur dioxide. This hot gas rises in the Glover Tower and evaporates water from down-flowing weak sulphuric acid. Nitrogen oxides are added and the gases enter the lead chambers where they react with water to form sulphuric acid. The nitrogen oxides are returned to the Glover Tower after absorption in strong sulphuric acid to form nitrous vitriol in the Gay-Lussac Tower.

Practically all sulphuric acid was once made by the Chamber Process. Now this process is used mainly for making acid for the fertilizer industry and for other industries which do not require concentrated acid. Sulphuric acid is indispensable in many manufacturing

operations and the acid manufacturer must be assured of a dependable supply of Sulphur. This assurance is given by the Texas Gulf Sulphur Company which has in stock enough Sulphur to supply the entire Nation for more than a year.

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else will do it. It is your responsibility to see that sales to your customers are based upon the past history of their farming operations, with an effort to tie the grade of fertilizer to individual crops wherever this is possible. You must take care of this year's customers before you attempt to locate new ones. Any attempt to insist that the customer purchase a grade with a very low nitrogen content to replace one with high nitrogen will result in considerable criticism. Likewise, the failure to supply a new customer in a territory is likely to result in difficulties for the industry.

If the fertilizer industry will accept the responsibility of seeing that these procedures are carried out, there will be no need for rationing and the farmer will obtain sufficient fertilizers to enable him to attain his production goals.

There is little question in my mind but that the job will be done. It must be done. We have a big task ahead of us if we are to maintain our magnificent crop production record of this year. The farmers will have enough difficulties in their way without making it impossible for them to purchase sufficient fertilizer to grow their crops. You have a large responsibility in accomplishing this. I know you will do your part to see that the job is well done.

PRICE CEILING ON FERTILIZERS RAISED

(Continued from page 9)

PENNSYLVANIA

Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$1.12	4-10-10.....	\$1.60
0-12-12.....	.96	4-16-4.....	2.08
0-16-8.....	1.28	4-18-16.....	1.44
0-14-14.....	1.12	4-12-8.....	1.76
0-24-12.....	1.60	4-12-12.....	1.76
0-20-20.....	1.60	4-16-8.....	2.08
2-8-10.....	1.04	4-16-20.....	2.08
2-12-6.....	1.36	4-24-12.....	2.40
3-12-6.....	1.56	6-15-15.....	2.40
3-12-15.....	1.56	7-21-7.....	3.00
3-18-9.....	2.04	10-6-4.....	.48
4-10-5.....	1.60	0-18-0.....	1.44
4-12-4.....	1.76	0-20*-0.....	1.60
4-8-12.....	1.44	*Or higher	

For tobacco grades add 25c per unit of nitrogen to the above.

DELAWARE

Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$0.70	3-12-15.....	\$1.20
0-12-12.....	.60	4-12-4.....	1.40
0-16-8.....	.80	4-8-12.....	1.20
0-14-14.....	.70	4-12-8.....	1.40
0-20-20.....	1.00	4-16-8.....	1.60
0-24-12.....	1.00	4-16-20.....	1.60
2-8-10.....	.80	4-24-12.....	1.80
2-12-6.....	1.00	5-10-5.....	1.50
2-12-12.....	1.00	7-21-7.....	2.40
3-12-6.....	1.20	10-6-4.....	.30
3-9-15.....	1.05	0-18-0.....	.90
3-18-9.....	1.50	0-20*-0.....	1.00
*Or higher.			

MARYLAND AND DISTRICT OF COLUMBIA

Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$0.70	4-8-12.....	\$1.20
0-12-12.....	.60	4-12-8.....	1.40
0-16-8.....	.80	4-16-4.....	1.60
0-14-14.....	.70	4-16-8.....	1.60
0-24-12.....	1.00	4-16-20.....	1.60
0-20-20.....	1.00	4-24-12.....	1.80
2-8-10.....	.80	4-12-4.....	1.40
2-12-6.....	1.00	5-10-5.....	1.50
2-12-12.....	1.00	6-6-8.....	1.50
3-12-6.....	1.20	7-21-7.....	2.40
3-9-15.....	1.05	10-6-4.....	.30
3-12-15.....	1.20	0-13-0.....	.90
3-18-9.....	1.50	0-20*-0.....	1.00
*Or higher.			

For tobacco grades add 25c per unit of nitrogen to the above.

VIRGINIA

Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$0.70	3-18-9.....	\$1.50
0-12-12.....	.60	4-8-4.....	1.20
0-1-8.....	.80	4-9-3 ¹	2.25
0-14-14.....	.70	4-8-6.....	1.20
0-24-12.....	1.00	4-12-4.....	1.40
0-20-20.....	1.00	4-8-12.....	1.20
2-8-10.....	.80	4-12-8.....	1.40
2-12-6.....	1.00	4-16-4.....	1.60
2-12-12.....	1.00	4-16-8.....	1.60
3-8-5.....	1.00	5-10-5.....	1.50
3-9-6.....	1.05	10-6-4.....	.30
3-12-6.....	1.20	0-18-0.....	.90
3-9-15.....	1.05	0-20*-0.....	1.00
3-12-15.....	1.20	*Or higher.	

¹ For tobacco only. For other tobacco grades add 25c per unit of nitrogen to the above.

Bags. To a manufacturer's established maximum prices for sales in 200-pound burlap bags, there may be added for sales in cotton bags:

\$1.15 per ton for sales in 200-pound cotton bags.

\$1.40 per ton for sales in 125-pound cotton bags.

\$1.65 per ton for sales in 100-pound cotton bags.

For sales in 100-pound paper bags, deduct \$1.15 per ton from the above determined 200-pound cotton bag price.

L. W. HUBER COMPANY
Brokers **Fertilizer Materials**
 170 Broadway
 NEW YORK, N.Y.
 15 Exchange Place
 JERSEY CITY, N.J.

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

A Complete Service

THE strategic factory locations of the American Agricultural Chemical Company, as shown on the accompanying map, assure prompt, dependable service for the complete line of products listed below.

We manufacture all grades of Commercial Fertilizers, Superphosphate, Agrinite Tankage, Bone Black, Bone Black Pigments (Cosmic Black), Dicalcium Phosphate, Monocalcium Phosphate, Gelatin, Glue, Ground Limestone, Crushed Stone, Agricultural Insecticides (including Pyrox, Arsenate of Lead, Calcium Arsenate, etc.), Trisodium and Disodium Phosphate, Phosphorus, Phosphoric Acid, Sulphuric Acid, Salt Cake; and we are importers and/or dealers in Nitrate of Soda, Cyanamid, Potash Salts, Sulphate of Ammonia, Raw Bone Meal, Steamed Bone Meal, Sheep and Goat Manure, Fish, Blood and Tin-Tetrachloride. We mine and sell all grades of Florida Pebble Phosphate Rock.



FACTORIES

Alexandria, Va.	Detroit, Mich.	Pensacola, Fla.
Baltimore, Md.	East St. Louis, Ill.	Pierce, Fla.
Buffalo, N. Y.	Greensboro, N. C.	Port Hope, Ont., Can.
Carteret, N. J.	Havana, Cuba	Presque Isle, Me.
Cayce, S. C.	Henderson, N. C.	Savannah, Ga.
Chambly Canton,	Montgomery, Ala.	Searsport, Maine
Quebec, Can.	Norfolk, Va.	South Amboy, N. J.
Charleston, S. C.	No. Weymouth,	Spartanburg, S. C.
Cincinnati, Ohio	Mass.	West Haven, Conn.
Cleveland, Ohio		Wilmington, N. C.

The AMERICAN AGRICULTURAL CHEMICAL Co.

50 Church Street, New York City

SALES OFFICES



Alexandria, Va.	Columbia, S. C.	Laurel, Miss.	Pierce, Fla.
Baltimore, Md.	Detroit, Mich.	Montgomery, Ala.	Port Hope, Ont., Can.
Buffalo, N. Y.	East St. Louis, Ill.	Montreal, Quebec, Can.	St. Paul, Minnesota
Carteret, N. J.	Greensboro, N. C.	New York, N. Y.	Savannah, Ga.
Charleston, S. C.	Havana, Cuba	Norfolk, Va.	Spartanburg, S. C.
Cincinnati, Ohio	Henderson, N. C.	No. Weymouth, Mass.	Wilmington, N. C.
Cleveland, Ohio	Houlton, Me.	Pensacola, Fla.	

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

WEST VIRGINIA			
Grade:	Amount per ton	Grade:	Amount per ton
0-14-7.....	\$0.70	4-12-4.....	\$1.40
0-16-8.....	.80	4-12-8.....	1.40
0-24-12.....	1.00	10-6-4.....	.30
2-12-6.....	1.00	0-18-0.....	.90
3-18-9.....	1.50	0-20*-0.....	1.00

*Or higher.

For tobacco grades add 25c per unit of nitrogen to the above.

Bags. To a manufacturer's established maximum prices for sales in 100-pound paper bags, there may be added for sales in cotton bags:

\$1.10 per ton in 200-pound cotton bags.

\$1.35 per ton in 125-pound cotton bags.

\$1.60 per ton in 100-pound cotton bags.

NORTH CAROLINA			
Grade:	Amount per ton	Grade:	Amount per ton
0-10-10.....	\$0.20	4-9-3 ¹	\$1.98
0-14-7.....	.28	4-8-6.....	.96
2-8-10.....	.56	4-8-8.....	.96
2-10-6.....	.60	4-10-6.....	1.00
2-12-6.....	.64	4-12-4.....	1.04
3-8-5.....	.76	4-12-8.....	1.04
3-9-6.....	.78	5-7-5.....	1.14
3-9-9.....	.78	0-18-0.....	.36
3-12-6.....	.84	0-20*-0.....	.40
4-8-4.....	.96		

*Or higher.

¹ For tobacco only.

For other tobacco grades add 25c per unit of nitrogen to the above.

SOUTH CAROLINA			
Grade:	Amount per ton	Grade:	Amount per ton
2-12-6.....	\$0.40	4-8-4.....	\$0.80
3-8-5.....	.60	4-8-6.....	.80
3-9-6.....	.60	4-8-8.....	.80
3-9-9.....	.60	4-12-4.....	.80
3-12-6.....	.60	4-12-8.....	.80
4-9-3 ¹	1.80	5-7-5.....	1.00

¹ For tobacco only. For other tobacco grades add 25c per unit of nitrogen to the above.

GEORGIA			
Grade:	Amount per ton	Grade:	Amount per ton
2-12-6.....	\$0.40	4-8-4.....	\$0.80
3-8-5.....	.60	4-8-6.....	.80
3-9-6.....	.60	4-8-8.....	.80
3-9-9.....	.60	4-9-3 ¹	1.80
3-12-6.....	.60	4-12-4.....	.80
4-2-10 ¹	1.80		

¹ For tobacco only. For other tobacco grades add 25c per unit of nitrogen to the above.

Bags. To a manufacturer's established maximum prices for sales in 200-pound cotton bags, there may be added sixty (\$0.60) cents per ton.

Basis the above determined 200-pound cotton bag price:

Add \$0.25 per ton for 125-pound cotton bags.

Add \$0.50 per ton for 100-pound cotton bags.

Deduct \$1.15 per ton for 100-pound paper bags.

TENNESSEE

Bags. To a manufacturer's established maximum prices for sales in 125-pound cotton bags there may be added sixty (\$0.60) cents per ton.

Basis the above determined 125-pound cotton bag price:

Add \$0.25 per ton for sales in 100-pound cotton bags.

Deduct \$0.25 per ton for sales in 200-pound cotton bags.

Deduct \$1.35 per ton for sales in 100-pound paper bags.

(e) New Mexico, Oklahoma, Texas, Arkansas, Louisiana, Mississippi, Alabama, Florida, west of Apalachicola River.

Bags. To a manufacturer's established maximum prices for sales in 100-pound cotton bags, there may be added sixty (\$0.60) cents per ton.

Basis the above determined 100-pound cotton bag price:

Deduct \$0.50 per ton for sales in 200-pound cotton bags.

Deduct \$1.60 per ton for sales in 100-pound paper bags.

(f) Florida, east of Apalachicola River.

To the prices of mixed fertilizer quoted in a manufacturer's written or printed price schedule effective on July 31, 1941, there may be added amounts per ton determined as follows:

(i) \$1.30 per unit of organic nitrogen for the amount of organic nitrogen derived from natural organic materials other than cottonseed meal, soybean meal or peanut meal guaranteed to be in a particular grade and kind of mixed fertilizer.

(ii) \$2.15 per unit of organic nitrogen for the amount of organic nitrogen derived from cottonseed meal, soybean meal or peanut meal guaranteed to be in a particular grade and kind of mixed fertilizer.

(iii) \$3.80 per unit of organic nitrogen derived from natural organic materials other than cottonseed meal, soybean meal or peanut meal when used to replace chemical nitrogen in a particular grade and kind of mixed fertilizer.

(iv) \$4.65 per unit of organic nitrogen derived from cottonseed meal, soybean meal or peanut meal when used to replace chemical nitrogen in a particular grade and kind of mixed fertilizer.

(v) If a manufacturer wishes to reduce the amount of organic nitrogen guaranteed to be in a particular grade and kind of mixed fertilizer after having increased his price according to subparagraphs (i), (ii), (iii), or (iv) above, his price of that grade and kind of mixed fertilizer shall be reduced by deducting for the amount of natural organic nitrogen replaced by chemical nitrogen at the rates specified in (iii) or (iv) above for the types of natural organic nitrogen replaced by chemical nitrogen.

Fertilizer Machinery AND Acidulating Equipment

BATCH MIXERS — PULVERIZERS — CAGE MILLS — SCREENS — SCALES
ELEVATORS, AND ALL OTHER EQUIPMENT FOR COMPLETE PLANTS

ATLANTA UTILITY WORKS - - EAST POINT, GA.

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FLORIDA PEBBLE PHOSPHATE ROCK

PHOSPHATES — "FROM THE GROUND UP!"

For 37 years we have been producing phosphate rock of all standard grades and to particular specifications for the fertilizer and chemical trades. Our experience includes the manufacture of high purity chemicals from phosphate rock. For this reason we modestly say that we know phosphates "from the ground up." This knowledge we believe is an assurance to you of quality and efficient service.



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SPECIFY THREE ELEPHANT



... WHEN BORON IS NEEDED TO CORRECT A DEFICIENCY OF THIS IMPORTANT SECONDARY ELEMENT

Agricultural authorities have shown that a lack of Boron in the soil can result in deficiency diseases which seriously impair the yield and quality of crops.

When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

AMERICAN POTASH & CHEMICAL CORPORATION

70 PINE STREET, NEW YORK CITY

Pioneer Producers of Muriate of Potash in America

See Page 4

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

Bags. To a manufacturer's established maximum prices for sales in 200-pound burlap bags, there may be added for sales in cotton bags:

\$1.15 per ton for sales in 200-pound cotton bags.

\$1.65 per ton for sales in 100-pound cotton bags.

For sales in 100-pound paper bags, deduct \$1.15 per ton from the 200-pound cotton bag price as determined above.

(g) Kentucky, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Iowa, Missouri.

Bags. To a manufacturer's established maximum prices for sales in 100-pound paper bags, there may be added for sales in cotton bags:

\$1.10 per ton for sales in 200-pound cotton bags.

\$1.35 per ton for sales in 125-pound cotton bags.

\$1.60 per ton for sales in 100-pound cotton bags.

(h) Washington, Oregon, California, Arizona, Colorado, Nevada, Idaho, Utah, Wyoming, Montana.

No amounts per ton may be added to manufacturer's established maximum prices.

2. *Use of natural organic nitrogen materials.* Except for deliveries in Washington, Oregon, California, Arizona, Colorado, Nevada, Utah, Idaho, Montana, Wyoming and Florida east of the Apalachicola River, amounts may be added to manufacturer's prices for use of natural organic nitrogen materials in mixed fertilizers as specified below:

(a) \$2.00 per unit of organic nitrogen derived from natural organic materials other than cottonseed meal, soybean meal or peanut meal when used to replace chemical nitrogen in a particular grade and kind of mixed fertilizer.

(b) \$4.20 per unit of organic nitrogen derived from cottonseed meal, soybean meal or peanut meal when used to replace chemical nitrogen in a particular grade and kind of mixed fertilizer.

(c) \$2.20 per unit of organic nitrogen derived from cottonseed meal, soybean meal or peanut meal when used to replace other natural organic nitrogen materials in a particular grade and kind of mixed fertilizer.

(d) On and after the effective date of this Revised Maximum Price Regulation No. 135, no existing provision in any price schedule or list for adding to prices on account of the use of oilseed meals and other natural organic nitrogen materials in the manufacture of mixed fertilizer, inconsistent with the foregoing paragraphs (i), (ii) and (iii) shall be effective or valid.

§ 1367.45 Appendix B: Victory Garden Fertilizer made to comply with War Production Board Conservation Order M-231 as amended.

1. Maximum consumer prices of "Victory Garden Fertilizer—For Food Production Only" shall be:

In 100-pound packages:	Per package
2000 lbs. or more.....	\$3.40
1000 lbs. to 1900 lbs.....	3.60
500 lbs. to 900 lbs.....	3.80
100 lbs. to 400 lbs.....	4.00

In smaller packages:	Each
50 lb. package.....	\$2.50
25 lb. package.....	1.50
10 lb. package.....	.80
5 lb. package.....	.50

2. Maximum price of Victory Garden Fertilizer delivered to dealers shall be:

	Each
100 lb. package.....	\$3.00
50 lb. package.....	1.88
25 lb. package.....	1.13
10 lb. package.....	.60
5 lb. package.....	.39

3. Packages of Victory Garden Fertilizer shall be

plainly labelled "Victory Garden Fertilizer—For Food Production Only."

§ 1367.46 Appendix C: Dealers' margins.

1. *Cash Sales*—A dealer's maximum margin on his cash sales, unless otherwise determined under § 1367.34, shall be:

(a) No more than five (5%) per cent margin on dealer's net delivered cost on deliveries in Alabama; Florida, west of the Apalachicola River only; Georgia; Louisiana, east of the Mississippi River only; Mississippi; Maine, Aroostook County, Danforth Township of Washington County and the part of Penobscot County north and west of Millinocket only; North Carolina; South Carolina; and Virginia.

(b) No more than six (6%) per cent margin on dealer's net delivered cost on deliveries in Delaware; Maryland, Counties of Caroline, Cecil, Dorchester, Kent, Queen Annes, Somerset, Talbot, Wicomico and Worcester only; and New York, Long Island only.

(c) No more than seven (7%) per cent margin on dealer's net delivered cost on deliveries in the District of Columbia; Maryland, Counties west of the Susquehanna River and Chesapeake Bay only; West Virginia, except counties of Brooke, Hancock, Marshall, and Ohio; and New Jersey.

(d) No more than eight (8%) per cent margin on dealer's net delivered cost on deliveries in New York, except Long Island.

(e) No more than nine (9%) per cent margin on dealer's net delivered cost on deliveries in Indiana; Michigan, Southern Peninsula; Ohio; Pennsylvania; and West Virginia, counties of Brooke, Hancock, Marshall and Ohio only.

(f) No more than ten (10%) per cent margin on dealer's net delivered cost on deliveries in Arizona; Arkansas; California; Colorado; Connecticut; Florida, except area west of the Apalachicola River; Idaho; Illinois; Iowa; Kansas; Kentucky; Louisiana, west of the Mississippi River; Maine, exclusive of Aroostook County, Danforth Township of Washington County and the part of Penobscot County north and west of Millinocket; Massachusetts; Michigan; Northern Peninsula; Minnesota; Missouri; Montana; Nebraska; Nevada; New Hampshire; New Mexico; North Dakota; Oklahoma; Oregon; Rhode Island; South Dakota; Tennessee; Texas; Utah; Vermont; Washington; Wisconsin; and Wyoming.

2. *Time Sales*—A dealer's margin on his time sales, unless otherwise determined under Section 1367.34, shall be no greater on spring season sales than he charged on similar sales during the period February 16th to February 20, 1942, inclusive; and on fall season sales no greater than he charged on similar sales during the period October 1st to October 15, 1941, inclusive.

SACKETT
EQUIPMENT

for the Fertilizer Plant

BATCH MIXERS • PULVERIZERS
SCREENS • BUCKET ELEVATORS
CONTINUOUS AMMONIATING EQUIPMENT
BASING, MIXING & BAGGING UNITS
COMPLETE FERTILIZER PLANTS

THE A. J. SACKETT & SONS CO.

1701 S. HIGHLAND AVE., BALTIMORE, MD.

MENTION "THE AMERICAN FERTILIZER" WHEN WRITING TO ADVERTISERS.

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Production
Recovery
Concentration

Whether your production requirements involve large or small quantities, consult the CHEMICO engineers for authoritative advice and recommendations. CHEMICO designs, remodels and builds complete acid and fertilizer plants, and CHEMICO recommendations are based on 28 years of specialized experience. Your inquiry is invited, and will involve no obligation.

Chemical Construction Corporation
30 Rockefeller Plaza, New York, N. Y.

**CHEMICO PLANTS are
PROFITABLE INVESTMENTS**

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MILORGANITE

Specializing
CHILEAN NITRATE OF SODA

**Nitrogenous Materials
Blood and Fertilizer Tankage**

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**SOUTH AMERICAN DRY
RENDERED TANKAGE**

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Charleston, S. C.**

Keyed SERVICE!

Fertilizer plants all over the country—large and small—state their needs and we meet them. Large stocks of seasoned materials and ample modern production facilities enable us to make prompt shipments.

TRIPLE SUPERPHOSPHATE

46 to 48% Available Phosphoric Acid

We also manufacture
HIGH-GRADE SUPERPHOSPHATE

U. S. Phosphoric Products

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A Mark of



Reliability



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**Sulphate of Ammonia
Low Grade Ammoniates
Superphosphate
Sulphuric Acid
Bags**

*Inquiries and offerings
invited*

KEYSER BUILDING

BUYERS' GUIDE • A CLASSIFIED INDEX TO ALL THE ADVERTISERS IN "THE AMERICAN FERTILIZER"



This list contains representative concerns in the Commercial Fertilizer Industry, including fertilizer manufacturers, machinery and equipment manufacturers, dealers in and manufacturers of commercial fertilizer materials and supplies, brokers, chemists, etc. For Alphabetical List of Advertisers, see page 33.



ACID BRICK

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

ACID EGGS

Chemical Construction Corp., New York City.

ACIDULATING UNITS

Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

AMMO-PHOS

American Cyanamid Co., New York City.

AMMONIA—Anhydrous

Barrett Division, The Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIA LIQUOR

Barrett Division, The Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIA OXIDATION UNITS

Chemical Construction Corp., New York City.

AMMONIATING EQUIPMENT

Sackett & Sons Co., The A. J., Baltimore, Md.

AMMONIUM NITRATE SOLUTIONS

Barrett Division, The Allied Chemical & Dye Corp., New York City.

AUTOMATIC ELEVATOR TAKEUPS

Sackett & Sons Co., The A. J., Baltimore, Md.

BABBITT

Sackett & Sons Co., The A. J., Baltimore, Md.

BAGS AND BAGGING—Manufacturers

Bagpak, Inc., New York City.
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.
Union Bag & Paper Corporation, New York City.

BAGS—Cotton

Bemis Bro. Bag Co., St. Louis, Mo.

BAGS—Paper

Bagpak, Inc., New York City.
Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.
Union Bag & Paper Corporation, New York City.

BAGS (Waterproof)—Manufacturers

Bemis Bro. Bag Co., St. Louis, Mo.
St. Regis Paper Co., New York City.
Union Bag & Paper Corporation, New York City.

BAGS—Dealers and Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

BAG CLOSING MACHINES

Bagpak Inc., New York City.

BAGGING MACHINES—For Filling Sacks

Atlanta Utility Works, East Point, Ga.
Bagpak, Inc., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

BAG PILERS

Link-Belt Company, Philadelphia, Chicago.

BEARINGS

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

BELT LACING

Sackett & Sons Co., The A. J., Baltimore, Md.

BELTING—Chain

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

BELTING—Leather, Rubber, Canvas

Sackett & Sons Co., The A. J., Baltimore, Md.

BOILERS—Steam

Atlanta Utility Works, East Point, Ga.

BONE BLACK

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Huber & Company, New York City.

BONE PRODUCTS

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmalts, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BORAX AND BORIC ACID

American Potash and Chem. Corp., New York City.
Pacific Coast Borax Co., New York City.

BROKERS

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Dickerson Co., The, Philadelphia, Pa.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
Keim, Samuel L., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Schmalts, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BUCKETS—Elevator

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

A Classified Index to Advertisers in
"The American Fertilizer"

BUYERS' GUIDE

For an Alphabetical List of all the
Advertisers, see page 33

BUCKETS—For Hoists, Cranes, etc., Clam Shell, Orange Peel, Drag Line, Special; Electrically Operated and Multi Power

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.

BURNERS—Sulphur

Chemical Construction Corp., New York City.

BURNERS—Oil

Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.

CABLEWAYS

Hayward Company, The, New York City.

CARBONATE OF AMMONIA

American Agricultural Chemical Co., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.

CARS—For Moving Materials

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CARTS—Fertilizer, Standard and Roller Bearing

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

CASTINGS—Acid Resisting

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.

CASTINGS—Iron and Steel

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CEMENT—Acid-Proof

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

CHAIN DRIVES—Silent

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHAINS AND SPROCKETS

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHAMBERS—Acid

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

CHEMICAL APPARATUS

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

CHEMICALS

American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Huber & Company, New York City.

CHEMICALS—Continued

International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Wellmann, William E., Baltimore, Md.

CHEMICAL PLANT CONSTRUCTION

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CHEMISTS AND ASSAYERS

Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Stillwell & Gladding, New York City.
Wiley & Company, Baltimore, Md.

CLUTCHES

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

CONCENTRATORS—Sulphuric Acid

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

CONDITIONERS AND FILLERS

American Limestone Co., Knoxville, Tenn.
Dickerson Co., The, Philadelphia, Pa.
Phosphate Mining Co., The, New York City.

CONTACT ACID PLANTS

Chemical Construction Corp., New York City.

COPPER SULPHATE

Tennessee Corporation, Atlanta, Ga.

COTTONSEED PRODUCTS

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmalz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

CRANES AND DERRICKS

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

CYANAMID

American Agricultural Chemical Co., New York City
American Cyanamid Co., New York City.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Jett, Joseph C., Norfolk, Va.
Wellmann, William E., Baltimore, Md.

DENS—Superphosphate

Chemical Construction Corp., New York City.
Stedman's Foundry and Mach. Works, Aurora, Ind.

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Cooled Acid Chambers, Gaillard Acid-Cooled Chambers,
Gaillard Acid Dispersers, Contact Process Sulphuric
Acid Plants.

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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

DRYERS—Direct Heat

Sackett & Sons Co., The A. J., Baltimore, Md.

DRIVES—Electric

Link-Belt Company, Philadelphia, Chicago.

DUMP CARS

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

DUST COLLECTING SYSTEMS

Sackett & Sons Co., The A. J., Baltimore, Md.

ELECTRIC MOTORS AND APPLIANCES

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

ELEVATORS

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

ELEVATORS AND CONVEYORS—Portable

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

ENGINEERS—Chemical and Industrial

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

ENGINES—Steam

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

EXCAVATORS AND DREDGES—Drag Line and Cableway

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Link Belt Speeder Corp., Chicago, Ill., and Cedar
Rapids, Iowa.

FERTILIZER MANUFACTURERS

American Agricultural Chemical Co., New York City.
American Cyanamid Company, New York City.
Armour Fertilizer Works, Atlanta, Ga.
Farmers Fertilizer Company, Columbus, Ohio.
International Minerals and Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp.,
Tampa, Fla.

FISH SCRAP AND OIL

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

FOUNDERS AND MACHINISTS

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

GARBAGE TANKAGE

Wellmann, William E., Baltimore, Md.

GEARS—Machine Moulded and Cut

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

GEARS—Silent

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

GELATINE AND GLUE

American Agricultural Chemical Co., New York City.

GUANO

Baker & Bro., H. J., New York City.

HOISTS—Electric, Floor and Cage Operated, Portable

Hayward Company, The, New York City.

HOPPERS

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

IMPORTERS, EXPORTERS

Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Wellmann, William E., Baltimore, Md.

IRON SULPHATE

Tennessee Corporation, Atlanta, Ga.

INSECTICIDES

American Agricultural Chemical Co., New York City.

LACING—Belt

Sackett & Sons Co., The A. J., Baltimore, Md.

LIMESTONE

American Agricultural Chemical Co., New York City.
American Limestone Co., Knoxville, Tenn.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

LOADERS—Car and Wagon, for Fertilizers

Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Acid Making

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Duriron Co., Inc., The, Dayton, Ohio.
Fairlie, Andrew M., Atlanta, Ga.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Coal and Ash Handling

Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Elevating and Conveying

Atlanta Utility Works, East Point, Ga.
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Grinding and Pulverizing

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

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Atlanta Utility Works, East Point, Ga.
Duriron Co., Inc., The, Dayton, Ohio.

MACHINERY—Tankage and Fish Scrap

Atlanta Utility Works, East Point, Ga.
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Stedman's Foundry and Mach. Works, Aurora, Ind.

MAGNETS

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MANGANESE SULPHATE

McIver & Son, Alex. M., Charleston, S. C.
Tennessee Corporation, Atlanta, Ga.

MIXERS

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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

NITRATE OF SODA

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
Chilean Nitrate Sales Corp., New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

NITRATE OVENS AND APPARATUS

Chemical Construction Corp., New York City.

NITROGEN SOLUTIONS

Barrett Division, The, Allied Chemical & Dye Corp., New York City.

NITROGENOUS ORGANIC MATERIAL

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Smith-Rowland Co., Norfolk, Va.
Wellmann, William E., Baltimore, Md.

NOZZLES—Spray

Monarch Mfg. Works, Philadelphia, Pa.

PACKING—For Acid Towers

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

PANS AND POTS

Stedman's Foundry and Mach. Works, Aurora, Ind.

PHOSPHATE MINING PLANTS

Chemical Construction Corp., New York City.

PHOSPHATE ROCK

American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Ruhm, H. D., Mount Pleasant, Tenn.
Schmaltz, Jos. H., Chicago, Ill.
Southern Phosphate Corp., Baltimore, Md.
Virginia-Carolina Chemical Corp. (Mining Dept.), Richmond, Va.
Wellmann, William E., Baltimore, Md.

PIPE—Acid Resisting

Duriron Co., Inc., The, Dayton, Ohio.

PIPES—Chemical Stoneware

Chemical Construction Corp., New York City.

PIPES—Wooden

Stedman's Foundry and Mach. Works, Aurora, Ind.

PLANT CONSTRUCTION—Fertilizer and Acid

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

POTASH SALTS—Dealers and Brokers

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

POTASH SALTS—Manufacturers

American Potash and Chem. Corp., New York City.
Potash Co. of America, New York City.
International Minerals & Chemical Corp., Chicago, Ill.
United States Potash Co., New York City.

PULLEYS AND HANGERS

Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

PUMPS—Acid-Resisting

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

PYRITES—Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., New York City.
Wellmann, William E., Baltimore, Md.

QUARTZ

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

RINGS—Sulphuric Acid Tower

Chemical Construction Corp., New York City.

ROUGH AMMONIATES

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McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
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Hayward Company, The, New York City.

SCREENS

Atlanta Utility Works, East Point, Ga.
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SEPARATORS—Air

Sackett & Sons Co., The A. J., Baltimore, Md.

SEPARATORS—Including Vibrating

Sackett & Sons Co., The A. J., Baltimore, Md.

SEPARATORS—Magnetic

Sackett & Sons Co., The A. J., Baltimore, Md.
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SHAFTING

Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

SHOVELS—Power

Link-Belt Company, Philadelphia, Chicago.
Link-Belt Speeder Corporation, Chicago, Ill., and Cedar
Rapids, Iowa.
Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS—Acid Chambers

Monarch Mfg. Works, Inc., Philadelphia, Pa.

SPROCKET WHEELS (See Chains and Sprockets)

STACKS

Sackett & Sons Co., The A. J., Baltimore, Md.

SULPHATE OF AMMONIA

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New
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Bradley & Baker, New York City.
Huber & Company, New York City.
Hydrocarbon Products Co., New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
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SULPHUR

Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Freeport Sulphur Co., New York City.
Texas Gulf Sulphur Co., New York City.

SULPHURIC ACID

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
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Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.

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SUPERPHOSPHATE

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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
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Tampa, Fla.
Wellmann, William E., Baltimore, Md.

SUPERPHOSPHATE—Concentrated

Armour Fertilizer Works, Atlanta, Ga.
International Minerals & Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp.,
Tampa, Fla.

SYPHONS—For Acid

Monarch Mfg. Works, Inc., Philadelphia, Pa.

TALLOW AND GREASE

American Agricultural Chemical Co., New York City.

TANKAGE

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
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Jett, Joseph C., Norfolk, Va.
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Schmaltz, Jos. H., Chicago, Ill.
Smith-Rowland, Norfolk, Va.
Wellmann, William E., Baltimore, Md.

TANKAGE—Garbage

Huber & Company, New York City.

TANKS

Sackett & Sons Co., The A. J., Baltimore, Md.

TILE—Acid-Proof

Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

TOWERS—Acid and Absorption

Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

UNLOADERS—Car and Boat

Hayward Company, The, New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

UREA

DuPont de Nemours & Co., E. I., Wilmington, Del.

UREA-AMMONIA LIQUOR

DuPont de Nemours & Co., E. I., Wilmington, Del.

VALVES—Acid-Resisting

Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

WHEELBARROW (See Carts)

ZINC SULPHATE

Tennessee Corporation, Atlanta, Ga.

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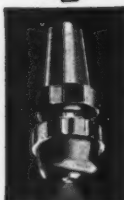
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See Catalog 6-C

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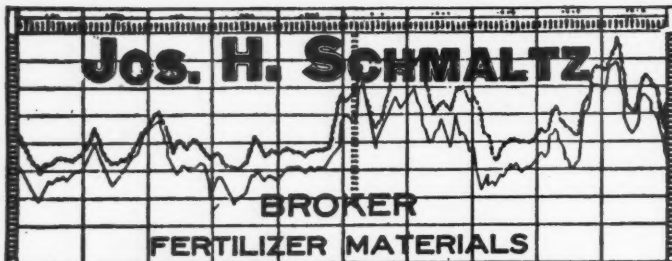
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Chemists

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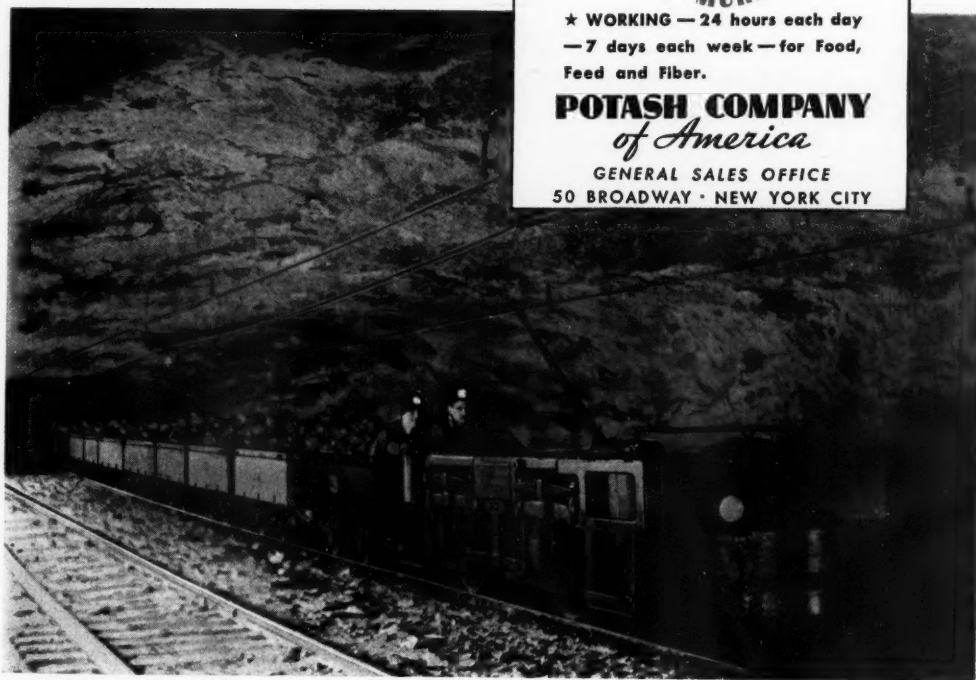
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of America

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